

CLAIMS

1. A probe arrangement for the electrothermal coagulation of tissue comprising a distal probe tip and a proximal hand portion, comprising
5 at least a first and a second electrode in the region of the distal probe tip,
an inner conductor (10) which extends from the distal probe tip to the proximal hand portion and is adapted to electrically contact the first electrode in the distal probe tip, and
an outer conductor (19) which extends from the distal probe tip to the
10 proximal hand portion and is adapted to electrically contact the second electrode in the distal probe tip, wherein the inner and outer conductors (10, 19) are electrically insulated from each other,
characterized in that the inner conductor (10) is designed to increase the flexural stiffness of the probe arrangement between the probe tip and the hand
15 portion.
2. A probe arrangement as set forth in claim 1 characterized in that the inner conductor (10) is force-lockingly and/or positively lockingly connected both to the hand portion and also to the probe tip.
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3. A probe arrangement as set forth in claim 2 characterized in that the inner conductor (10) is connected by a screw connection both to the hand portion and also to the probe tip.
- 25 4. A probe arrangement as set forth in claim 1 characterized in that the inner conductor (10) is connected to the hand portion and the probe tip in such a way that the inner conductor (10) is under a tensile stress and the outer conductor (19) is under a compression stress.
- 30 5. A probe arrangement as set forth in claim 1 characterized in that the inner conductor (10) is in the form of a metal tube.

6. A probe arrangement as set forth in one of the preceding claims characterized in that the distal end (10b) of the inner conductor (10) can be screwed to the probe tip and the proximal end (10a) of the inner conductor (10) is adapted to be braced in relation to the hand portion.

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7. A probe arrangement as set forth in claim 1 characterized by an insulator (18) which is arranged between the inner and outer conductors (10, 19) and adapted to electrically insulate the inner conductor (10) from the outer conductor (19).

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8. A probe arrangement as set forth in claim 5 characterized in that the inner and outer conductors (10, 19) and the insulator (18) are arranged coaxially relative to each other.

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9. A probe arrangement as set forth in one of the preceding claims characterized in that the inner conductor (10) has a hollow duct (15) which is adapted to pass cooling or heating fluid from the proximal end to the distal end, and a through bore (16) which is adapted to allow the heating or cooling fluid supplied through the hollow duct (15) to be discharged from the hollow duct (15), and provided between the insulator (18) and the outer conductor (19) is an intermediate space (20) which is adapted to pass the cooling or heating fluid of the hollow duct (15), which is flowing out of the through bore (16), back to the proximal end.

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10. A probe arrangement as set forth in claim 1 characterized in that the first electrode is in the form of a tip electrode (11).

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11. A probe arrangement as set forth in claim 1 characterized in that the second electrode is in the form of a shaft electrode (13).

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12. A probe arrangement as set forth in claim 1 characterized in that arranged between the tip electrode (11) and the shaft electrode (13) is an insulator element (12) which is adapted to insulate the tip electrode (11) from the shaft electrode (13).

13. A probe arrangement as set forth in claim 10 characterized in that the insulator element (12) is of an annular configuration.

5 14. A probe arrangement as set forth in claim 1 characterized by an insulation tube (21) which is adapted to insulate the outer conductor (19) outwardly.

15 15. A probe arrangement as set forth in claim 1 characterized in that the hand portion (3, 4) has a first hand portion element (3) which is adapted to receive the proximal ends of the inner conductor (10), the outer conductor (19), the insulator (18) and the insulation tube (21).

16 16. A probe arrangement as set forth in claim 13 characterized in that the first hand portion element (3) has a first blind bore (9) and a longitudinal slot (67) between the proximal end (3a) of the first hand portion element (3) and the first blind bore (9), which is adapted to pass an electrically conductive spring wire (8) from the proximal end (3a) of the first hand portion element (3) to the outer conductor (19) in the first blind bore (9) in order to electrically contact the outer conductor (19).

20 17. A probe arrangement as set forth in claim 14 characterized in that the first hand portion element (3) has a transverse bore (6) and a second blind bore (31) which cross each other and are adapted to provide a communication between the proximal end (3a) of the hand portion element (3) and.

25 18. A probe arrangement as set forth in one of claims 4 through 15 characterized in that at its proximal end (10a) the inner conductor (10) has a male screwthread which is adapted to brace the inner conductor (10) with a screwthreaded nut in relation to the first hand portion element (3).

30 19. A probe arrangement as set forth in one of claims 7 through 16 characterized by an electrically little conducting or non-conducting cooling fluid, preferably deionized water.